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A2 6,159,696 12/12/00 Dijkema et al. 435 6 11/20/97
A3 6,379,961 04/30/102 Jessell et al. 435 377 09/20/96 A4 6,458,944 10/01/02 Kawai et al. 536 23.5 04/22/99 A5 6,475,735 11/05/02 Suglura 435 6 04/22/99 THER ART Including Author, Title, Date, Pertinent Pages, Etc. MKJ B1 Alexander, et al., "Screening Mosaic F1 Females for Mutations Affecting Zebrafish Heart Induction and Patterning", Dev. Genet., 22:288-299 (1998) B2 Amsterdam et al., "The Aequorea Victoria green fluorescent protein can be used as a reporter in live zebrafish embryos", Dev. Biol., 171:123-129 (1995) B3 Blader et al., "Cleavage of the BMP-4 Antagonist Chordin by Zebrafish Tolloid", Science, 275:1937-1940 (1997) B4 Carvajal et al., "A BAC transgenic analysis of the Mr4/My/5 locus reveals interdigitated elements that control activation and maintenance of gene expression during muscle development", Development, 128:1857-1868 (2001) B5 Chen et al., "Left-right pattern of cardiac BMP4 may drive asymmetry of the heart in
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A5 6,475,735 11/05/02 Suglura 435 6 04/22/99 THER ART xaminer Including Author, Title, Date, Pertinent Pages, Etc. title Including Author, Etc. 268-279 (1998) B1 Alexander, et al., "Sceenet, 22:288-299 (1998) B2 Amsterdam et al., "The Aequorea Victoria green fluorescent protein can be used as a reporter in live zebrafish embryos", Dev. Biol., 171:123-129 (1995) B3 Blader et al., "Cleavage of the BMP-4 Antagonist Chordin by Zebrafish Toliold", Science, 276:1937-1940 (1997) B4 Carvajal et al., "A BAC transgenic analysis of the Mrf4/Myf5 locus reveals interdigitated elements that control activation and maintenance of gene expression during muscle development", Development, 128:1857-1868 (2001) B5 Chen et al., "Left-right pattern of cardiac BMP4 may drive asymmetry of the heart in
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reporter in live zebrafish embryos", <u>Dev. Biol.</u> , 171:123-129 (1995) B3 Blader et al., "Cleavage of the BMP-4 Antagonist Chordin by Zebrafish Toliold", <u>Science</u> , 278:1937-1940 (1997) B4 Carvajal et al., "A BAC transgenic analysis of the Mrf4/Myf5 locus reveals interdigitated elements that control activation and maintenance of gene expression during muscle development", <u>Development</u> , 128:1857-1868 (2001) B5 Chen et al., "Left-right pattern of cardiac BMP4 may drive asymmetry of the heart in
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elements that control activation and maintenance of gene expression during muscle development", Development, 128:1857-1868 (2001) B5 Chen et al., "Left-right pattern of cardiac BMP4 may drive asymmetry of the heart in
B6 Chin et al., "Bone morphogenetic protein-4 expression characterizes inductive boundaries i organs of developing zebrafish", <u>Dev. Genes. Evol.</u> , 202:107-114 (1997)
B7 Culp et al., "High-frequency germ-line transmission of plasmid DNA sequences injected inte fertilized zebrafish eggs", <u>Proc. Natl. Acad. Sci. USA</u> , 88:7953-7957 (1991)
B8 Donovan et al., "Rapid Purification of Bacteriophage & DNA", BioTechniques, 15:602:603 (1993)
B9 Feng et al., "The mouse bone morphogenetic protein-4 gene: analysis of promoter utilizatio in fetal rat calvarial osteoblasts and regulation by COUP-TFI orphan receptor', J. Biol. Chem., 270:28364-28373 (1995)
B10 Fu et al., "Viral sequences enable efficient and tissue-specific expression of transgenes in Xenopus", Nature Biotech., 16:253:257 (1998)
xaminer Michael K Salie Date Considered 7/14/06
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Sheet 2 of 4 sheet(s) U.S. Department of Commerce, Patent and Trademark Office Docket No. Serial No. JOY 612 (PTO Form 1449 modified) ACAD/0002 INFORMATION DISCLOSURE STATEMENT BY APPLICANT Confirmation No.: Applicant Hwang et al. Unknown (Use several sheets if necessary) Filing Date Group Examiner - Unknown michele Joike Herewith Unknown 1636 U.S. Patent Documents *Examiner Document Issue Applicant(s) Class Subclass Filling Date If Initial Number Date Name Appropriate OTHER ART *Examiner Including Author, Title, Date, Perlinent Pages, Etc. Initial Gaussin et al., "Endocardial cushion and myocardial defects after cardiac myocyte-specific B11 conditional deletion of the bone morphogenetic protein receptor ALK3", Proc. Natl. Acad. MKJ Sci. USA, 99:2878-2883 (2002) B12 Gong, Z. and Hew, C., "Transgenic Fish in Aquaculture and Developmental Biology", Curr. Topics Dev. Biol., 30:177-214 (1995) **B13** Hammerschmidt et al., "Genetic analysis of dorsoventral pattern formation in the zebrafish: requirement of a BMP-like ventralizing activity and its dorsal repressor", Genes, Dev., 10:2452-2461 (1996) R14 Hogan, B., "Bone morphogenic proteins in development", Curr. Opin. Genet. Dev., 6:432-438 (1996a) B15 Hogan, B., "Bone morphogenic proteins: multifunctional regulators of vertebrate development", Curr. Opin. Genet. Dev., 10:1580-1594 (1996b) B16 Hsiao et al., "Enhanced Expression and Stable Transmission of Transgenes Flanked by Inverted Terminal Repeats From Adeno-Associated Virus in Zebrafish", Dev. Dynam., 220:323-336 (2001) Hu, et al., "Structure and Function of the Developing Zebrafish Heart". Anatom. Rec.. B17 260:148-157 (2000) Hwang et al., "The Zebrafish BMP4 Gene: Sequence Analysis and Expression Pattern **B18** During Embryonic Development", DNA Cell Biol., 16:1003-1011 (1997) B19 Jones et al., "Involvement of Bone Morphogenetic Protein-4 (BMP-4) and Vor-1 in morphogenesis and neurogenesis in the mouse", Development, 111:531-542 (1991) Ju et al., "Faithful Expression of Green Fluorescent Protein (GFP) in Transgenic Zebrafish B20 Embryos Under Control of Zebrafish Gene Promoters", Dev. Genet., 12:158-167 (1999) Marini et al., "Presistence and Replication of Plasmid DNA Microinjected into Early Embryos B21 of Xenopus laevis*, Dev. Biol., 127:421-434 (1988) B22 Martinez-Barbera et al., "Cloning and expression of three members of the zebrafish Bmo family: Bmp2a, Bmp2b and Bmp 4", Gene, 198:53-59 (1977)

Examiner Muchael Gallon Date Considered — // / 66

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	B27	Park et al., "Analys Establishment of T (2000)					
	B28	Schilling et al., "Re Dev. Bio., 210:277		ft-Right Asymmet	ries in the Zo	brafish by	Shh and BMP4",
	B29	Schultheiss et al., myogenesis", Gen			proteins in t	ne induction	of cardiac
	B30	Shafizadeh et al., ' Molecular Biology,	Transfenic Ze 183:225-233	brafish Expressin	g Green Flu	orescent Pr	otein", <u>Methods in</u>
	B31	B31 Stuart et al., "Replication, integration and stable germ-line transmission of foreign sequences injected into early zebrafish embryos", <u>Development</u> , 103:403-412 (1988) B32 Stuart et al., "Stable lines of transgenic zebrafish exhibit reproductible patterns of transger expression", <u>Development</u> , 109:577-584 (1990)					
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